

WHAT IS CLAIMED IS:

- Sub 7A
1. A data storage device for storing and accessing data, the storage device comprising:
a motor;
at least one movable medium coupled to the motor and capable of being moved by the motor and thereby generating a turbulent airflow; and
at least one internal surface comprising at least two grooves having a groove axis oriented substantially perpendicular to a mean airflow direction so as to reduce interaction between the internal surface and a turbulent airflow generated by the medium.
 2. The data storage device of claim 1 wherein the internal surface comprises at least three evenly spaced grooves.
 3. The data storage device of claim 1 wherein the grooves are V-shaped.
 4. The data storage device of claim 1 wherein the grooves are curved.
 5. The data storage device of claim 1 wherein the grooves are separated by a planar surface.

100533271-011702

6. The data storage device of claim 1 wherein the grooves are separated by a curved surface.
7. The data storage device of claim 1 wherein the internal surface forms part of an E-block assembly.
8. The data storage device of claim 1 wherein the internal surface forms part of a suspension.
9. The data storage device of claim 1 wherein the internal surface forms part of an air dam.
10. The data storage device of claim 1 wherein the internal surface forms part of an air flow regulator.
11. A surface for a component in a disc drive, the surface comprising:
a first groove having a groove axis that is substantially perpendicular to a direction of expected mean air flow; and
a second groove proximate the first groove and having a groove axis that is substantially perpendicular to the expected mean air flow such that the first and second grooves cooperate to reduce interaction between vortices in the air flow and the surface.
12. The surface of claim 11 wherein the first groove and the second groove are V-shaped.

Sub P1
com 27

20250710 105327

Sub A1
Con 24

202710-101702

13. The surface of claim 11 wherein the first groove and the second groove are curved.

14. The surface of claim 11 wherein the surface forms part of an E-block assembly.

15. The surface of claim 11 wherein the surface forms part of a suspension.

16. The surface of claim 11 wherein the first groove borders the second groove.

17. The surface of claim 11 wherein the first groove is separated from the second groove by a planar surface.

18. The surface of claim 11 wherein the first groove is separated from the second groove by a curved surface.

19. A disc drive for storing and accessing data, the disc drive comprising:

a moving medium that generates an airflow having eddies in the disc drive; and

excitation reduction means defining a surface in the disc drive for reducing the excitation of the surface by causing eddies in the airflow to be moved away from the surface.

20. The disc drive of claim 19 wherein the excitation reduction means comprises grooves on the surface.

21. The disc drive of claim 20 wherein the grooves are V-shaped.

22. The disc drive of claim 20 wherein the grooves are curved.

23. The disc drive of claim 20 wherein the grooves are evenly spaced.

Sub A
Concl. 7

10053231.011702